Bad River Band of Lake Superior Chippewa's Water Quality Standards

DEFINITIONS. Any term not defined here will have meaning consistent with the definitions in 40 CFR 132.

(1) *Acute Criterion* means the highest water concentration of a toxicant to which organisms can be exposed briefly without causing acute toxicity.

(2) *Acute Toxicity* means concurrent and delayed adverse affects (including but not limited to mortality, disorientation, immobilization, etc.) that results from an acute exposure. An acute exposure is exposure of an organism for any short period which usually does not constitute a substantial portion of its life span.

(3) *Adverse Effect* means any deleterious effect to organisms due to exposure to a substance. This includes effects which are or may become debilitating, harmful or toxic to the normal functions of the organism but does not include non-harmful effects such a the induction of enzymes involved in the metabolism of the substance.

(4) *Anishinaabosibiing* means "good watering place" and is a classification for waters considered to be of high quality and culturally important for the ecosystems they support. Any surface water not specifically classified as Manominikanning or Chiminosibii Waters shall be considered classified as Anishinaabosibiing Waters.

(5) *Background Conditions* means the biological, chemical, and physical conditions of a water body, upstream from any discharge.

(6) *Best Management Practices (BMPs)* means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the polllution of surface waters.

(7) *Carcinogen* means a substance which causes an increased incidence of benign or malignant neoplasms or substantially decreases the time to develop neoplasms in animals or human

(8) *Chiminosibii ("large good river")* means those waters so designated for the purpose of implementing the antidegradation policy for protection from changes in water quality characteristics and is a classification for waters that are considered to be of exceptional quality that are also culturally important for the fisheries and ecosystems they support.

(9) *Chronic Criterion* means the highest water concentration of a toxicant to which organisms can be exposed indefinitely without causing chronic toxicity.

(10) *Chronic Toxicity* concurrent and delayed adverse effect(s) to an organism that occur as a result of chronic exposure. Chronic exposure is exposure for any long period or a substantial portion of an organism's life span.

(11) *Council or Tribal Council* means the governing body of the Bad River Band of the Lake Superior Tribe of Chippewa Indians.

(12) *Criteria* means those elements of the Water Quality Standards, expressed as constituent concentrations, levels, or narrative statements, representing quality of water that supports a particular use. When the criteria are met, water quality will generally protect the designated use.

(13) *Cultural* water use means activities involving traditional Ojibwe practices which includes ceremonies, harvesting, hunting and fishing, actual or historical.

(14) *Degradation*

(15) *Designated Uses* are those uses specified in this water quality code for each water body. "High quality waters" are water bodies in which the quality of water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

(16) *Narrative Standard*

(17) *Natural Biological Community* means that the biological community occurs with diversity and structure characteristic of no impact from human activity.
(18) *Non-point Source* means any source of pollution or substance causing degradation to water quality that is not a point source.
(19) *Manominikanning* ("rice place") means those waters so designated for the purpose of implementing the antidegradation policy for protection from changes in water quality characteristics and is a classification of waters that are considered largely pristine and important for the cultivation of rice.
(20) *Mixing Zone* means a limited area or volume of water where initial dilution of discharge takes place; and where numeric water quality criteria can be exceeded but acutely toxic conditions are prevented from occurring. Extent dependent on stream????
(21) *Point Source* means any source of pollution or substance causing degradation to water quality that issues from the end of a pipe or discharges from a specific source.
(22) *pH* means the negative logarithm of the activity of the hydrogen ion, moles/liter.
(23) *Primary Contact Recreation* means activities where a person would have direct contact with water to the point of complete submergence, including but not limited to swimming.
(24) *Reservation* means all lands within the exterior boundaries of the Reservation of the Bad River Band of Lake Superior Chippewa Indians as established by the Treaty of September 30, 1854.
(25) *Secondary Contact Recreation* means activities where a person's water contact would be limited to the extent that bacterial infections of the eyes, ears, respiratory, or digestive systems or urogenital areas would normally be avoided (such as wading or fishing from a boat).
(26) *Surface Water* means all water above the surface of the ground within the exterior boundaries of the Bad River Reservation including but not limited to lakes, ponds, reservoirs, artificial impoundments, streams, rivers, springs, seeps and wetlands.
(27) *Temperature* means water temperature expressed in Centigrade degrees (^{o}C).
(28) *Toxicity* (acute and/or chronic toxicity) is the property of a material, or combination of materials, to adversely affect organisms.
(29) *Tribe* means the Bad River Band of the Lake Superior Tribe of Chippewa Indians.
(30) *Wildlife Habitat* means the waters and surrounding land areas of the Reservation used by fish, other aquatic life and other wildlife at any stage of their history or activity.

DESIGNATED USES. The following designated uses shall apply to the various classes of surface waters within the exterior boundaries of the Bad River Reservation:

(1) Cultural (C1): Water-based activities essential to maintaining the Tribe's cultural heritage, including but not limited to ceremony, subsistence fishing, hunting and harvesting, includes the possibility of primary and secondary contact and ingestion.

(2) Wild Rice (W1): Supports wild rice habitat for sustainable growth and safe consumption.

(3) Wildlife (W2): Supports the proper habitat for propagation of wildlife, which will allow the safe ingestion of any wildlife resources that provide a dietary food source (subsistence).

(4) Aquatic Life and Fish (A1): Supports conditions for a balanced aquatic community.

(5) Cold Water Fishery (F1): Supports the existence of cold water fishery communities and/or spawning areas. Generally these waters are of temperatures below 16°C. Such waters must maintain a Dissolved Oxygen content of 6.0 mg/L or greater (except in the mesolimnion and hypolimnion during stratification), no thermal discharge to such waters will be allowed.

(6) Cool Water Fishery (F2): Supports the existence of cool water fishery communities and/or spawning areas. On the Bad River Reservation some water bodies support a variety of temperature regimes throughout the year.

(7) Recreational (R1): Supports primary contact recreation and secondary contact recreation. This includes Tribal activities including water contact such as boating, hunting, fishing and ricing.

(8) Commercial (C2): Supports the use of water in propagation of fish fry for the Tribal Hatchery.

The surface waters of the Reservation are currently not utilized as a drinking water supply. In their natural state, the surface waters contain a large enough quantity of tannins and natural constituents to cause a taste and odor problems upon treatment.

Antidegradation Categories

Manominikanning ("rice place") means those waters so designated for the purpose of implementing the antidegradation policy for protection from changes in water quality characteristics and is a classification of waters that are considered largely pristine and important for the cultivation of rice. Waters designated as Manominikanning include but are not limited to the Kakagon Slough and the lower wetland reaches of its tributaries, and the Bad River Slough/Honest John Slough complex.

Chiminosibii ("large good river") means those waters so designated for the purpose of implementing the antidegradation policy for protection from changes in water quality characteristics and is a classification for waters that are considered to be of exceptional quality that are also culturally important for the fisheries and ecosystems they support. Waters designated as Chiminosibii include but are not limited to; Bad River, White River, Marengo River, Potato River within the exterior boundaries of the Reservation.

All waters of the Reservation, unless otherwise categorized for antidegradation purposes, will be Anishinaabosibiing (good watering place waters) waters of high quality and culturally important for the ecosystems they support.

Note: At the boundary between surface waters of different designated uses, the water quality criteria necessary to protect the more sensitive use or uses shall apply.

SPECIFIC CLASSIFICATIONS: Designated uses applied to the surface waters of the Bad River Indian Reservation are as follows:

Waterbody	M1	C3	C1	W2	W1	A1	R1	F1	F2
Kakagon Slough	X		X	X	X	X	X	X	X
Sand Cut Slough			X	X	X	X	X		X
Bad River Slough	X		X	X	X	X	X		X
Honest John Lake	X		X	X		X	X		X
Wood Creek Slough			X	X	X	X	X		X
Bad River		X	X	X	X	X	X		X
White River		X	X	X		X			X
Marengo River		X	X	X		X		X	
Potato River		X	X	X		X			
Wood Creek				X		X			
Bear Trap Creek				X	X	X			X
Graveyard Creek			X	X		X		X	
Bell Creek			X	X		X		X	
Morrison Creek				X		X		X	
Newago Creek				X		X		X	
Denomie Creek				X		X			
West Branch Denomie Creek				X		X			
Rins Creek				X		X			
Silver Creek				X		X			
Thornapple Creek				X		X			
Meadow Creek				X		X			
Elm Creek				X		X			
Vaughn Creek				X		X			X
UpperVaughnCreek				X		X			X
Winks Creek				X		X			X
Cameron Creek				X		X			X
Sugarbush Creek				X		X			
Hanson Swamp				X		X			

Sugarbush Pond				X		X			
Alex Pond				X		X			
Wolf Pond				X		X			
Pictured Rock Lake				X		X			
Sugarbush Lake				X		X			
Lost Lake				X		X			
Bog Lake Madeline Is.				X		X			

NUMERIC CRITERIA:

Acute Water Quality Criteria for the protection of aquatic life in ambient waters is as follows:

Chemical	CMC (ug/L)	Conversion Factor (CF)
Arsenic (III)	339.8[a,b]	1.000
Chromium (VI)	16.02[a,b]	0.982
Cyanide	22[c]	n/a
Dieldrin	0.24[d]	n/a
Endrin	0.086[d]	n/a
Lindane	0.95[d]	n/a
Mercury	1.694[a,b]	0.85
Parathion	0.065[d]	n/a
Selenium	19.34[a,b]	0.922

[a]$CMC=CMC^{tr}$
[b]$CMC^{d}=(CMC^{tr})CF$ The CMC^{d} shall be rounded to two significant digits.
[c]CMC should be considered fee cyanide as CN.
[d]$CDM=CMC^{t}$
NOTES:
The term n/a means not applicable.
CMC is Criterion Maximum Concentration
CMC^{tr} is the CMC expressed as a total recoverable.
CMC^{d} is the CMC expressed as a dissolved concentration.
CMC^{t} is the CMC expressed as a total concentration.

Chemical	m_A	b_A	Conversion Factor (CF)
Cadmium[a,b]	1.128	-3.6867	0.85
Chromium (III)[a,b]	0.819	+3.7256	0.316
Copper[a,b]	0.9422	-1.700	0.960
Nickel[a,b]	0.846	+2.255	0.998
Pentachlorophenol[c]	1.005	-4.869	n/a
Zinc[a,b]	0.8473	+0.884	0.978

[a]$CMC^{tr}= \exp\{m_A[\ln(\text{hardness})]+b_A\}$
[b]$CMC^{d}=(CMC^{tr})CF$. The CMC^{d} shall be rounded to two significant digits.
[c]$CMC^{t}= \exp\{m_A[pH]+b_A\}$ The CMC^{t} shall be rounded to two significant digits.

NOTES:
The term "exp" represents the base e exponential function.

The term “n/a” means not applicable.
CMC is Criterion Maximum Concentration.
CMC^{tr} is the CMC expressed as total recoverable.
CMC^{d} is the CMC expressed as a dissolved concentration.
CMC^{t} is the CMC expressed as a total concentration.

Chronic Water Quality Criteria for the protection of aquatic life in ambient water is as follows:

Chemical	CCC (ug/L)	Conversion Factor (CF)
Arsenic (III)	147.9[a,b]	1.000
Chromium (VI)	10.98[a,b]	0.962
Cyanide	5.2[c]	n/a
Dieldrin	0.056[d]	n/a
Endrin	0.036[d]	n/a
Mercury	0.9801[a,b]	0.85
Parathion	0.013[d]	n/a
Selenium	5[a,b]	0.922

[a]$CCC=CCC^{tr}$
[b]$CCC^{d}=(CCC)^{tr}CF$
[c]CCC should be considered free cyanide as CN.
[d]$CCC=CCC^{tr}$

NOTES:
The term “n/a” means not applicable.
CCC is Criterion Continuous Concentration.
CCC^{tr} is the CCC expressed as total recoverable.
CCC^{d} is the CCC expressed as a dissolved concentration.
CCC^{t} s the CCC expressed as a total concentration

TABLE 2b

Chemical	m_c	b_c	Conversion Factor (CF)
Cadmium[a,b]	0.7852	-2715	0.850
Chromium (III)[a,b]	0.819	+0.6848	0.860
Copper[a,b]	0.8545	-1.702	0.960
Nickel[a,b]	0.846	+0.0584	0.997
Pentachlorophenol[c]	1.005	-5.134	n/a
Zinc[a,b]	0.8473	+0.884	0.986

[a]$CCC^{tr}=\exp\{m_c[\ln(\text{hardness})]+b_c$.
[b]$CCC^{d}=(CCC^{tr})CF$. The CCC^{d} shall be rounded to two significant digits.
[c]$CCC=\exp\{m_A[pH]+b_A\}$. The CCC^{t} shall be rounded to two significant digits.

NOTES:
The term “exp” represents the base e exponential function.
The term “n/a” means not applicable.
CCC is Criterion Continuous Concentration

CCC^{tr} is the CCC expressed as total recoverable.
CCC^{d} is the CCC expressed as a dissolved concentration.
CCC^{t} is the CCC expressed as a total concentration.

Numeric criteria for protection of human health is as follows: (include all human health criteria and link criteria to appropriate designated uses)

Numeric criteria for the protection of wildlife is as follows: (include all GLI wildlife criteria and link the criteria to the appropriate designated uses.)

NARRATIVE WATER QUALITY CRITERIA
The following are narrative criteria which apply to all surface waters of the Reservation.

General Criteria – All waters of the Reservation (including wetlands) except as otherwise noted, shall be free from pollutants that cause or contribute to the conditions described below, whether the source of the contaminant be a point source or a non-point source pollutant;

Floating or submerged debris, oil, scum or other material of a persistent nature, resulting from other than natural causes, including visible films of oil, globules of oil, grease or solids in or on the water, or coatings on stream banks.

Materials producing color, odor, taste or unsightliness in such amounts as to interfere with designated uses and existing uses on water of the Reservation

Nutrients or other substances stimulating algal growth from other than natural causes shall not be present in concentrations that produce objectionable algal densities or nuisance aquatic vegetation, or that result in a dominance of any nuisance species instream or that cause nuisance conditions in any other fashion.

Substances in concentrations (or combinations of substances) which are toxic or harmful to human, or animal or plant or aquatic life. Toxic, radioactive, nonconventional, or deleterious substances shall not be present in concentrations which are toxic to human, plant, animal or aquatic life or in quantities that interfere with the normal propagation, growth and survival of sensitive indigenous aquatic biota (limited exceptions may be granted to these prohibited conditions but then only within designated mixing zones). For toxic substances lacking published criteria, criteria or values shall be calculated as needed on the available data and consistent with procedures specified in the federal regulations at 40 CFR, part 132, to implement the narrative criteria.

Water levels, quantity and quality, necessary for the maintenance of habitat and for the growth and propagation of wild life, wild rice, and other aquatic plants of cultural importance to the Bad River Band shall be maintained or improved.

Hydrological conditions necessary to support the biological and physical characteristics naturally present in streams and wetlands shall be protected. Adverse impacts on water currents, erosion or sedimentation patterns, natural water temperature variations, the chemical nutrient and

dissolved oxygen regime of the stream or wetland, the normal movement of aquatic fauna, the pH of the wetland and normal water levels or elevations shall be prevented.

BIOLOGICAL CRITERIA

All waters of the reservation shall maintain a natural diverse biological community, therefore aquatic life shall be as it naturally occurs.

The overall biological community may not be adversely affected by the intake or discharge of water for industrial, municipal, or agricultural purposes, or by the discharge of pollutants to the water by point or by non-point sources.

CRITERIA APPLICABLE TO ALL WATERS EXCLUDING WETLANDS

Dissolved oxygen – If a water body is capable of supporting aquatic life, the dissolved oxygen standard will be a daily minimum of 5 mg/L in all cases excepting natural variations (ie, wetlands), except in waters which have been determined to have a Cold Water Fishery use, in which case the dissolved oxygen shall not be less than 6.0 mg/L.

Temperature – No increase in temperature shall be allowed from anthropogenic sources.

pH – No change is permitted greater than 0.5 units over a period of 24 hours due to any other than natural causes. The change, upward or downward, shall not result in an undue adverse affect on aquatic biota, fish or wildlife.

Turbidity – shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

Bacteriological Criteria – (please include criteria)

Modification of Criteria - The Tribe may adopt revised or site-specific criteria as necessary to reflect new scientific data or conditions specific to a given site or water body. Such modifications to water quality criteria shall assure that all designated and existing uses are protected and that water quality standards continue to be attained. Revisions or site-specific criteria shall be consistent with those procedures found in Chapter Three of the USEPA "Water Quality Standards Handbook" (Revised, 1994) and 40 CFR 132, "Water Quality Guidance for the Great Lakes System". The Tribe may adopt a site-specific criteria to protect Federally listed Threatened or Endangered Species which may be more stringent than the specific use or toxic pollutant table indicates (procedures will be consistent with 40 CFR 132).

ANTIDEGRADATION POLICY and IMPLEMENTATION

The purpose of this section is to establish policy and implementation procedures for the maintenance, or improvement, of existing water quality.

Policy

1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected, or improved in the case of a degraded stream. Where designated uses of the waterbody are impaired, there shall be no lowering of the water quality with respect to the pollutant or pollutants which are causing the impairment. All waters of the Reservation, unless otherwise categorized for antidegradation purposes, will be Anishinaabosibiing (good watering place waters) waters of high quality and culturally important for the ecosystems they support.
2) Where the quality of water exceeds that necessary to support the designated use, that quality shall be maintained and protected, or improved, unless the Tribe finds, after full satisfaction of public participation provisions, that allowing a lower water quality is necessary to accommodate important economic or social development in the area in which the water is located. In allowing the lowering of water quality for development, the Tribe shall assure water quality adequate to fully protect the designated use. In no case shall the quality of any water be lowered to where existing and/or designated uses cannot be attained. The Tribe shall assure that there shall be achieved the highest regulatory requirements for all new and existing point sources and best management practices for non-point source control.
3) Where high quality waters are identified as constituting a significantly important cultural and ecological resource, and are designated as Manominikanning ("rice place") waters that are considered largely pristine and important for the cultivation of rice that water quality shall be maintained and protected in all cases without degradation. New or increased discharges will not be permitted.
4) Surface waters of the Reservation considered to be of exceptional quality and culturally important to the Tribe for the fisheries and ecosystems they support will be Chiminosibii ("Large good river") Waters. Existing ambient water quality on Chiminosibii waters may not be lowered. New or increased discharges may be permitted provided that the new or increased discharge does not result in a change in existing ambient water quality or negatively impact designated uses.

Implementation
1) For all waters, the Tribe shall ensure that the level of water quality necessary to protect existing uses s maintained. Controls shall be established as necessary on point and nonpoint sources of pollutants to ensure that the criteria applicable to the designated use are achieved in the water and that any designated use of a downstream water is protected.
2) For high quality waters, the Tribe shall ensure that no action resulting in a lowering of water quality occurs unless an antidegradation demonstration has been completed pursuant to part 132, Appendix E, III, and the information thus provided is determined by the Tribe to adequately support the lowering of water quality.

ANTIDEGRADATION DEMONSTRATION
To be completed according to 40 CFR, 132, App E
Define; lowering water quality, degradation (parameter by parameter?), economic and social development.
The existing water quality may be lowered in a Anishinaabosibiing water, if the person or persons responsible for the activity expected to result in the lowering of water quality receive approval from the Tribe to do so. To receive approval, the person or persons responsible must demonstrate to the satisfaction of the Tribe that: a) cost-effective pollution prevention methods

that would eliminate or reduce the need to lower water quality do not exist, b) Cost-effective methods of improved wastewater treatment that would reduce or eliminate the need to lower water quality do not exist, and c) the proposed lowering of water quality will result in important social and economic development on the Bad River Reservation that outweighs the need to maintain water quality on that particular waterbody.

ANTIDEGRADATION DECISION

1) Once the Tribe determines that the information provided by the entity proposing

MIXING ZONES

No new mixing zones are permitted for bioconcentrating chemicals of concern under the Great Lakes Initiative, 40 CFR Part 132.

Established mixing zones regulations

Waste water treatment???

Thermal??

401 CERTIFICATION

For any activity which requires the issuance of a Federal Permit and subsequent Water Quality Certification by the Tribe, the following rules shall apply:

1. In no instance shall the Tribe waive Water Quality Certification for a Federally Permitted Activity. Every permitted activity will be individually reviewed by ??? subject to the final approval of the Tribal Council.

2. No new or increased discharges will be allowed for Manominikanning Waters nor any activity which will require the issuance of a Federal Permit.

3. For all Chiminosibii Waters, no new or increased discharges will be allowed unless the water quality of the proposed discharge meets natural conditions at the point of discharge.

Wetland mitigation???Danny??401 certification of 404 fills classification for wetlands?

“Do not abuse the concept of mitigation. Wetlands fill permits, as well as water quality certifications, should rise or fall on their own merits without considerations of “mitigation”. Mitigation should be relevant only in cases where wetland loss is unavoidable where an overriding public interest is served – and this should be the case in only a minority of cases.” P205 Thomas Dawson Wisconsin Public Intervenor.

NONPOINT SOURCE BMPs?????IRMP